UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,850	11/12/2003	Christopher J. Buehler	ITV-001	6080

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GOODWIN PROCTER LLP
PATENT ADMINISTRATOR
53 STATE STREET
EXCHANGE PLACE
BOSTON, MA 02109-2881

EXAMINER
CZEKAJ, DAVID J

ART UNIT	PAPER NUMBER
2621	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PatentBos@goodwinprocter.com
hmcpeake@goodwinprocter.com
glenn.williams@goodwinprocter.com

	Application No.	Applicant(s)
Office Action Summary	10/706,850	BUEHLER ET AL.
	Examiner	Art Unit	
	DAVID CZEKAJ	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _26 April 2010_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1,2,4-21 and 25-31_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,2,4-21 and 25-31_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-2, 4-9, 12-13, 15-16, 19, 25-26, and 29 are rejected under 35 U.S.C.

103(a) as being unpatentable over Olson et al. (Moving Object Detection and Event

Recognition Algorithms for Smart Cameras), (hereinafter referred to as "Olson") in view

of Tserng (6570608) in further view of Rosenberg (6798897).

Regarding claim 1, Olson discloses an apparatus that relates to tracking

moving objects using smart cameras (Olson: page 159, Abstract). This

apparatus comprises "receiving a plurality of series of video frames generated by

a plurality of image sensors, each having a field-of-view, which monitor portions

of a monitored environment" (Olson: page 159, Introduction section, wherein the

image sensors are the cameras; page 166, left hand column), and "concurrently

tracking, based on an analysis of the monitored environment over time and

independent of calibration among the image sensors and monitored environment,

a plurality of objects within the environment as the objects move between fields-
of-view and an object within one field-of-view based on the plurality of received
series of frames" (Olson: page 166, wherein by each camera containing an
independent core engine, the cameras will track the object independent of the
calibration of the cameras and environment). However, this apparatus lacks
tracking the plurality of objects as claimed. Tserng teaches that prior art smart
cameras will need new algorithms to implement the smart monitoring functions
(Tserng: column 1, lines 25-24). To help alleviate this need, Tserng discloses
an apparatus in which Tserng "tracks a plurality of objects" (Tserng: figures 10-
12; column 6, lines 62-65). Rosenberg teaches "tracking objects based on a
transition probability table, in which the first axis represents a first set of objects
and a second axis represents a second set of objects, and each entry represents
a likelihood that an object included in one video frame at a first point in time will
be included in a video frame at a second point in time" (Rosenberg: figures 1-4;
column 3, lines 40-56, wherein the matrix would include multiple entries and
axis). Therefore, it would have been obvious to one having ordinary skill in the
art at the time the invention was made to take the apparatus disclosed by
Sengupta and add the tracking taught by Tserng and Rosenberg in order to be
able to successfully track more than one object throughout a scene.
Furthermore, all the elements are known, could have been combined without any
change in function, and would give predictable results.

Regarding claim 2, Olson discloses "the image sensors are cameras"
(Sengupta: page 159, Introduction section).

Regarding claim 4, Tserng in view of Rosenberg disclose "storing a
plurality of blob states over time each including the number of objects included in
the blob and a blob signature" (Tserng: column 11, lines 26-40, wherein the blob
states are the car and object blobs; the number of objects is the number of blobs
stored in memory, in this case 2; the blob signature is the blob location) and
"storing a plurality of transition likelihood values representing the probability that
objects within one blob at one instant correspond to objects within other blobs at
other time instants" (Tserng: column 13, lines 15-27, wherein the blobs and
objects are analyzed to find a correlation; Rosenberg: figures 1-4; column 3,
lines 40-56).

Regarding claim 5, Rosenberg discloses "altering the stored transition
probabilities upon analysis of additional video frames" (Rosenberg: figures 1-4;
column 3, lines 40-56; wherein the altering is performed by updating the
analysis).

Regarding claim 6, Tserng discloses "storing object data indicating
correspondences between objects and blob states" (Tserng: column 13, lines
15-27, wherein the correspondence is the linkage indicating the correspondence
between the object and the blob)

Regarding claim 7, Tserng in view of Rosenberg disclose "generating a
tracking solution based on the blob states and transition probabilities" (Tserng:

column 6, lines 62-67; column 7, lines 7-15; Rosenberg: figures 1-4; column 3, lines 40-56).

Regarding claim 8, Tserng discloses "generating tracking metadata including one of: object track data" (Tserng: column 7, lines 7-15, wherein the object track data is the motion graph which indicates the track, or path, the object traverses).

Regarding claim 9, Tserng discloses "selecting a rule set to analyze tracking metadata and evaluating, using a rules engine, the metadata based on the rule set" (Tserng: column 7, lines 7-15. By applying event labels such as Enter, Exit, Rest, Move, ect., Tserng is selecting a rule set to analyze the motion graph to determine the correct label to apply to the specific event).

Regarding claim 12, although not disclosed, it would have been obvious to select the rule set to detect hazards to children (Official Notice). Doing so would have been obvious in order to help better provide safety and security to a wide range of people.

Regarding claim 13, Olson discloses "monitoring public safety" (Olson: page 160, left hand column, lines 1-10, wherein by monitoring for car bombs, Olson is monitoring public safety).

Regarding claim 15, note the examiners rejection for claims 1 and 8.

Regarding claim 16, Tserng discloses "a rules engine in communication with the tracking module and receiving the tracking metadata" (Tserng: column

7, lines 7-15, wherein the tracking metadata or motion graph is analyzed using a set of rules which determine the correct labels to apply to the detected events).

Regarding claim 19, note the examiners rejection for claims 12 and 15.

Regarding claims 25 and 26, although not disclosed, it would have been obvious for the fields-of-view to be non-overlapping (Official Notice). Doing so would have been obvious in order to provide a wider range of coverage.

Regarding claim 29, note the examiners rejection for claims 25-26.

4.   Claims 10-11, 17-18, 20, 27-28, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson et al. (Moving Object Detection and Event Recognition Algorithms for Smart Cameras), (hereinafter referred to as "Olson") in view of Tserng (6570608) in further view of Rosenberg (6798897) in further view of Brodsky et al. (6731805), (hereinafter referred to as "Brodsky").

Regarding claim 10, note the examiners rejection for claim 1, and in addition, claim 10 differs from claim 1 in that claim 10 further requires monitoring parking lot security. Brodsky teaches that surveillance is used in many settings such as parking lots (Brodsky: column 1, lines 15-18). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the parking lot security taught by Brodsky in order to provide protection in a wide variety of locations.

Regarding claim 11, Brodsky discloses "selecting a rule to detect property theft" (Brodsky: column 1, lines 15-18).

Regarding claim 17, note the examiners rejection for claims 10 and 15.

Regarding claim 18, note the examiners rejection for claims 11 and 15.

Regarding claim 20, note the examiners rejection for claims 11 and 15.

Regarding claim 27, note the examiners rejection for claims 25-26.

Regarding claim 28, note the examiners rejection for claims 25-26.

Regarding claim 30, note the examiners rejection for claims 25-26.

5.   Claims 14, 21, and 31 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Olson et al. (Moving Object Detection and Event Recognition

Algorithms for Smart Cameras), (hereinafter referred to as "Olson") in view of Tserng

(6570608) in further view Rosenberg (6798897) in further view of Carlbom et al.

(6441846), (hereinafter referred to as "Carlbom").

Regarding claim 14, note the examiners rejection for claim 1, and in

addition, claim 1 differs from claim 14 in that claim 14 further requires

determining merchandizing and operations statistics. Carlbom teaches that

trajectories can be used to determine merchandizing and operations statistics

(Carlbom: column 1, lines 25-34, wherein the merchandizing and operations

statistics are the advertisement effectiveness and consumer traffic reports).

Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to implement the tracking taught by Carlbom in

order to better help provide feedback of different product placement locations.

Regarding claim 21, note the examiners rejection for claims 14 and 15.

Regarding claim 31, note the examiners rejection for claims 25-26.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID CZEKAJ whose telephone number is (571)272-7327. The examiner can normally be reached on Mon-Thurs and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dave Czekaj/
Primary Examiner, Art Unit 2621